Final
Environmental Assessment

Submitted by:
The City of Fulton
Whiteside County, Illinois
Fulton City Marina Renovations
Mississippi River, Mile 519.5

Submitted to:
Region 3
Division of Federal Aid
United States Fish and Wildlife Service
Boating Infrastructure Grant Program

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Prepared by:
The Abonmarche Group, Benton Harbor, Michigan

1.0 Purpose and Need

1.1 Purpose

The City of Fulton, Whiteside County, Illinois has over two miles of waterfront along the eastern shore of the Mississippi River. The recreational and economical benefits of the waterfront are not currently being developed in a manner conducive to increasing the quality of life for those in the community. Thus, this project proposes to improve a portion of the waterfront area by renovating the existing City Marina located on the Mississippi River just south of the Fulton-Clinton Highway 136 Bridge (see Appendix A). Modern marina facilities will attract and accommodate both the transient and seasonal boaters by providing for their needs and demands, as identified and recommended by previous recreational and economic studies. Modern marina facilities will also help promote tourism to the City and economic development by linking the waterfront with Fulton's commercial and retail district, and provide the opportunity for transient boaters to experience the natural beauty, historical sites and cultural amenities of the Fulton area.

This Environmental Assessment (EA) evaluates the environmental impact of renovating the existing City Marina for transient slips and associated facilities, and compares the impact to alternatives of developing a new transient marina by the newly constructed authentic Dutch windmill and no action. Transient facilities are eligible for the Boating Infrastructure Grant (BIG) Program funding administered by the U.S. Fish and Wildlife Service (USFWS) and subject to the NEPA process.

1.2 Need

The community of Fulton has a vision of a fully developed marina facility that will become an economic engine for the entire region. Although the current

marina (see Appendix B) has served the City of Fulton well for many years, it does not meet the present needs or the desired goals and objectives of the community. The facilities are substandard and do not fulfill the promise and potential of a public riverfront facility that is located three miles south of the widest part of the Mississippi River. Based upon a 2000 feasibility study (The Abonmarche Group, 2000), there is an urgent need for an additional 25 transient slips in the Fulton market area.

The transient boater expects to find many things that are lacking at the current marina. This deficiency results in the boaters' reluctance to take advantage of the many recreational, cultural, and historical opportunities that exist in this region of the Upper Mississippi River. There is a need to provide boaters with standard amenities, which are currently lacking, such as:

- Adequate capacity for transient docking and tie-up (no slips are available)
- Adequate gas dock facilities
- Adequate sewage pump out facilities
- Navigational aids limited specifically to direct entry to transient, non-trailered tie-up facilities
- A shower/bathhouse facility
- Adequate areas for boaters with mechanical problems
- Adequate facilities for launching and retrieval of larger boats
- Safe, high quality lighting, electrical and water hook-ups

1.3 Decisions that Need to be Made

The USFWS's Regional Director must select one of the alternatives and decide whether the proposed action will result in a significant impact upon the human environment, necessitating an Environmental Impact Statement or if a Finding of No Significant Impact is appropriate.

1.4 Background

The City of Fulton's predominantly agricultural economy has severely stagnated over the past 35 years because of transportation changes. The Fulton area was one of the largest suppliers of fresh produce and flowers to the Chicago and Detroit areas. With the boom of refrigerated train cars and semi trailers, Fulton lost its share of the market to large agricultural producers in California and Florida. This has resulted in the loss of income, population, and tax base. Local funding for public improvements is therefore limited.

Recognizing the economic benefits that tourism could provide to the overall health of the local economy, the City implemented a Downtown Revitalization Project in 1995. This plan outlined strategies to attract tourism and link the downtown area with prominent local attractions. Parts of this plan that have been implemented to date include the construction of the City's' segment of the Great River Bike Trail, dedication of an authentic Dutch

Windmill and development of Heritage Canyon, an actual 1800's working village.

The plan also recognizes that the existing marina provides an opportunity for redevelopment into a "first class" (as identified by slip size, services, security, amenities, etc.) facility offering amenities for both the transient and seasonal boater. The development strategy specifically dictates that the downtown area must be made accessible to boaters and the existing marina facility must be upgraded to a "first class marina".

A feasibility study, completed in 2000 by Abonmarche Consultants, Inc. indicated the need for a larger and more accommodating marina. The study shows that there is a demand for over 500 slips in the Fulton market area, which includes Clinton, Iowa. The Clinton City Marina is located within Joyce's Slough on the west side of the Mississippi River across from the Fulton City Marina at Mississippi Mile 519. Currently the Clinton City Marina does not have transient slips available. However, funding from the BIG Program for transient facilities has been approved for the City of Clinton and construction of said transient facilities should be completed by the grant deadline. The study recommends that the Fulton Marina renovation include a minimum of 25 slips reserved for transient boaters.

2.0 Alternatives, Including the Proposed Action

2.1 Alternatives Not Considered for Detailed Analysis

The City of Fulton has over two miles of frontage on the Mississippi River. However, the frontage available for the development of a marina within the City is limited due to the United States Army Corps of Engineers Flood Control Levee (levee) that protects the City, strong river current, and closeness of the navigation channel. As stated previously, the City's Development Plan proposes the renovation of the existing marina or the development of a new transient marina by the newly constructed authentic Dutch Windmill as a necessary component of the revitalization of the Central Business District. River islands sufficiently shield both locations from the strong river current and busy barge traffic on the main channel. Thus, due to strong economic ties, and natural protection afforded to these sites, no other locations were considered.

2.2 Alternatives Carried Forward for Detailed Analysis

2.2.1 Alternative A (Proposed Action)

The proposed Action is to renovate the existing City owned marina to provide "first class" facilities for transient boaters. The marina would be renovated in two phases. Phase one, or the Proposed Action, would renovate fifty (50) slips with the appropriate navigational depth, amenities and infrastructure to support them. Twenty-five (25) of the slips would be transient slips. (See Appendix C)

Phase Two of the marina renovation includes renovation and reconfiguration of the north and south dock structures to provide approximately 53 additional slips for a total of 169 slips. Also included in Phase Two is additional dredging around the north dock structure, construction of a an engineered sediment control dike across the mouth of Marina Slough, additional shoreline protection, and increased vehicle parking within and outside of the floodplain. Phase Two is being presented as part of the overall Master Plan for the City of Fulton only. Since Phase Two is in a planning stage, it will not be addressed in this EA. At such time as Phase Two is possible for implementation, it will be considered under a separate NEPA document if Federal funding is involved.

The renovations for Alternative A (Phase One) include reconfiguration of the existing central and inner basin and a portion of the south dock structures to accommodate a varying mix of boat slip sizes including those appropriate for transient vessels in excess of 26 feet in length. The new docks and piers will be floating, allowing them to maintain a consistent freeboard level above the water. The floating piers will be approximately 8 foot wide and the attached docks will be approximately 3 foot wide, except for designated ADA accessible docks, which would be 5 feet. To maintain horizontal position, the new docks and piers will be attached via a guide system to anchor piles. These piles will be taller than the OHWD of 591 MSL 1912, allowing the docks to move vertically during a flood event.

Utilities serving the new slips (water, electric, telephone, and cable television) will contain flexible connections at the gangway/dock interface. Therefore, vertical and horizontal movements between the gangway and the docks can be accommodated.

ADA access to the inner basin slips will be via a boardwalk/gangway ramp approximately 5 foot wide. This ramp will be hinged at the shoreline interface at the shoreline bulkhead and allowed to slide at the pier, thus accommodating vertical movement of the pier. Additional access to the inner harbor dock slips will also be by 5 foot wide floating gangways extending from a sidewalk adjacent to the road to the main pier. Access to the central docks will be by a 5 foot wide ADA compliant gangway from the sidewalk. The gangway would be similar in nature to the inner basin gangway. Additionally a floating fuel dock with sewage pumpout facilities and an attendant's office are proposed for the central dock structure.

The main pier of the south dock structure would be attached to the main pier of the inner basin docks. Access to the south pier and docks would be via existing gangways of off the existing aggregate road. Access to the north docks will not change.

The sewage pumpout facilities will consist of a pump located on the fuel/pumpout dock to pump the sewage from a boat through a pressurized pipe to a lift station located by the marina service building. The lift station also serves the marina services building. The lift station contains a submersible pump in a watertight wet well to pump the sewage into the municipal system. All piping will be pressure tested for leaks following installation and contain check valves at appropriate locations to prevent back-flow once pumping operations cease. Additionally, all piping and tanks will be properly ballasted to prevent buoyancy during flood events. The system will meet applicable local, state and federal requirements for such facilities.

Two fuel dispensers and an attendant shed will also be located on the fuel/pumpout dock. The dispensers will be installed within spill trays and will be equipped with automatic shut-off valves to prevent over-filling and spillage. The attendants shed will contain booms, absorbent pads and other containment and control materials in the event of a spill. Fuel storage will consist of a 2000 GA diesel tank and a 5000+ GA unleaded gasoline tank. Both tanks are to be located above ground by the marina service building east of the levee, and shall contain double wall tanks and piping with leak detection and monitoring equipment. All piping will be underground or ballasted to prevent buoyancy during flood events. The fuel system will be designed to meet all applicable local, state, and federal regulations for such facilities.

The proposed fuel and pumpout facility will be operated by marina personnel trained in the proper operating procedures of such facilities. In the event of a spill, a previously prepared spill contingency plan would be implemented to contain and cleanup the spill.

The east shore of Marina Slough along the central dock facility and the shoreline of the inner basin will be reinforced with approximately 5500 cubic yards of stone riprap to prevent sloughing off and erosion of the banks due to prop wash, etc

The current boat launch and in/out well will remain. The in/out well will be used for larger boats.

The current bathroom building will be replaced with a larger single story building of approximately 1100 square feet to supply bathroom, shower and laundry facilities. It will also contain a marina office and small ships store. Access to the building will be ADA compliant. ADA compliant boardwalks will connect the building to the inner basin and central docks, as well as, the bike/pedestrian path located on top of the levee (The Great River Bike Trail). A new parking/boat storage area is proposed for the grassy area north of the access road, east of the levee. The parking lot would also service the marina service building and the maintenance facilities.

Traffic flow into and out of the renovated City Marina will be facilitated by the addition of a renovated entrance/exit to Fourth Street with signage. A parking lot for vehicles with trailers is proposed for the area south of the access road, east of the levee. A one-way entrance into the parking lot is located off of the access road. Exit from the parking lot is onto Fourth Street.

The proposed renovations will require dredging of approximately 14,000 cubic yards of bottom sediment from in front of the south and central docks and within the inner basin. An area in front of the boat launch and in/out well and the north docks will also be dredged. This material will be either mechanically or hydraulically dredged. Mechanical dredging will utilize a barge-mounted shovel, with the dredge material placed on the parking/queue lot for dewatering. Hydraulic dredging will utilize geo-synthetic bags placed in the same area for dewatering. Appropriate BMPs will be utilized to prevent sediment-loaded water from returning to the water body. Following dewatering, the dredge material will be trucked to an upland disposal site located by the Waste Water Treatment Plant just south of the Fulton Marina at Fourth Street and Twenty-second Avenue or the Fulton Landfill off of Cattail Road. No dredge material will be deposited into wetlands. The Marina Slough will be dredged to minus 6 feet OLWM of 572 MSL 1912 while the inner basin will be dredged to minus 5 feet. (See Appendix C, Dredging Detail)

The proposed renovations are subject to approval by the United States Army Corps of Engineers, the Illinois Department of Natural Resources (IDNR) Office of Water Resources, the IDNR Comprehensive Environmental Review Process (CERP), and the Illinois Environmental Protection Agency. Filing for the appropriate permit applications for the Fulton Marina master plan, including the BIG grant related activities, will be made in July / August of 2003. The appropriate permit approvals should be secured in time to allow construction of the BIG grant activities according to grant guidelines.

It should be noted that the renovation of the existing seasonal slips and parking facilities outlined for Phase One are not eligible for BIG Program funding. Only the transient slips and associated facilities are eligible for funding under the BIG Program. All facilities will be designed to meet all applicable requirements of the Americans with Disabilities Act.

The following facilities/tasks represent the marina renovation and expansion project. Transient boater facilities represent 50 percent of the total Phase One marina renovation and expansion project.

- Demolition of buildings/ site preparation
- Dredging (one time only)
- Shoreline riprap protection

- Erosion / sedimentation control
- Pedestrian lighting
- Boat slips with electric, water, CATV (25 Total Transient)
- Service building (showers, laundry, lockers, boating supplies, office)
- Landscaping
- ADA compliant facilities
- Floating fuel building
- Pump out facilities
- Mobilization

2.2.2 Alternative B (No Action)

The No Action Alternative is to not renovate, or expand the existing Fulton Marina. Thus, the Fulton Marina would remain in its current condition. (See Appendix B)

The No Action Alternative would hamper the economic growth of the City of Fulton as envisioned in the Development Plan. A vital economic link between the Central Business District and the waterfront would be broken if this alternative were selected. Boaters will continue to be reluctant to take advantage of the many recreational, cultural, and historical opportunities that exist with this region of the Mississippi River.

During much of the boating season, at least one third of the slips at the City Marina are inaccessible even after early season dredging. Fresh water and electrical hook ups are limited and substandard. Access to some of the docks is hindered during periods of high water and flood events. Landscaping is very poor, which discourages off-boat recreational activities and public usage. While fuel is available, the fuel dock is usually not accessible by the larger transient boats due to the silting problem and short dock. Additionally, the pump-out facility is gravity fed and does not meet current standards and safety requirements.

Thus, as stated previously, the existing marina does not provide the amenities necessary to attract the transient boater and other tourists. These include:

- Adequate capacity for transient docking and tie-up (no slips are available)
- Adequate gas dock facilities which are safe and compliant
- Sewage pump out facilities
- Navigational aids limited specifically to direct entry to transient, non-trailer tie-up facilities
- A shower/bathhouse facility
- Adequate areas for boaters with mechanical problems
- Safe, high quality lighting, electrical, and water hook-ups
- ADA compliant facilities

2.2.3 Alternative C (Windmill Transient Marina)

Alternative C proposes to meet the provisions of the Master Plan by developing a transient marina on City owned property along the Mississippi River by the newly constructed authentic Dutch Windmill. The project site is located at the west end of Eighth Avenue. (See Appendix D.) The transient marina would be located within an unnamed slough protected from the strong currents and heavy boat traffic of the Mississippi River by an unnamed river island just north of the Fulton's authentic Dutch windmill. The island is a forested wetland created from sediment deposition. Deciduous vegetation overhangs the slough. The eastern shore of the slough is in the floodplain and bordered by the levee.

The proposed Windmill Transient Marina will consist of twenty-six (26) transient slips. It will have fuel and pumpout facilities and a marina service building. As the marina will serve transient boaters only, the facility will not have a boat launch ramp, in/out well, or maintenance service. The existing Fulton City Marina, which will not be renovated under this Alternative, will continue to provide these services. Vehicle parking will be limited.

To provide safe navigation depths for the new slips, approximately 3500 cubic yards will need to be dredged from approximately 420 linear feet along the shoreline area of the new docks. The area will be dredged to a depth of minus 6 feet OLWM MSL 1912. Dredging operations will be mechanical or hydraulic as outlined in Alternative A, with dewatering occurring in the proposed parking area. Disposal of the dredge material will be as previously outlined.

The eastern shoreline of the slough along the proposed docks will be armored with approximately 4000 cubic yards of riprap to protect the shore from prop wash.

The new slips will be ADA compliant floating pier/finger docks similar in nature to the floating pier/docks proposed in Alternative A. A floating fuel dock with pumpout facilities and an attendant shed is also proposed. Access to the floating dock/piers will be by an ADA compliant gangway and boardwalk connected to the bike/pedestrian path on top of the levee. Another ADA compliant boardwalk will provide access to the marina service building from the bike/pedestrian walkway.

A marina service/restroom building, parking facilities, and fuel tanks will be located east of the levee, outside of the floodplain. These facilities will be similar in nature as those outlined in Alternative A.

Presently this site is undeveloped and does not have the necessary infrastructure to support a marina. The proposed area for the marina

support services is a wetland. Construction of these facilities is expected to result in the loss of the wetlands, and will require mitigation as part of the regulatory approvals. All utilities, electric, water, sewer, etc. would have to be extended to the site.
It should be noted that the development of the Windmill Transient Marina is being proposed as part of the overall Master Plan for the City Marina. As the Windmill Transient Marina is designated for transient use only, it is eligible for funding under the BIG Program, thus subject to the NEPA process. All facilities will be designed to meet all applicable requirements of the Americans with Disabilities Act. Construction of this Alternative would be subject to the same regulatory approvals, as outlined in Section 2.2.1,

The following components are included in the development of Alternative C:

- Dredging (one time only)
- Shoreline riprap protection
- Erosion /sedimentation control
- Pedestrian lighting
- Twenty-six boat slips with electric, water, CATV
- Service building (bathrooms, showers, laundry, lockers, office)
- Access road
- Utility infrastructure installation
- Landscaping
- ADA compliant facilities
- Floating fuel building
- Pump out facilities
- Mobilization

2.3 Summary of Alternative Actions Table

Alternatives Actions Summary			
	Alternatives		
	A: Proposed	B: No Action	C: Windmill Transient Marina
Number Transient Slips	25	0	26
Gas Dock	Modern	Inadequate	Modern
Pump Out Facility	Modern	Inadequate	Modern
Shower/Bath House	Yes	No	Yes
Lighting	Yes	Minimal	Yes
Navigation Aids	Yes	No	Yes
Existing Infrastructure (road, electric, water, sewer, etc.)	Yes	Inadequate	No
ADA Compliance	Yes	No	Yes

	A: Proposed	B: No Action	C: Windmill Transient Marina
Dredging Needed (One time only)	Yes	No	Yes
Estimated Construction Costs of Transient Facilities	$1,400,000	$0	$1,750,000

3.0 Affected Environment

3.1 Physical Characteristics

3.1.1 Alternative A (Proposed Action)

The proposed project area is located on both sides of the levee. The project site consists of an upland area west of Fourth Street, the levee, the floodplain between the levee and Marina Slough, a man-made basin, and Marina Slough. The project area is approximately 20 acres in size. See Appendix B.

An unnamed river island formed by sediment deposition protects the project area from the strong currents and heavy boat traffic of the Mississippi River to the west. The island is a forested wetland. Deciduous vegetation overhangs the slough providing habitat, resting, and foraging areas for waterfowl and other wildlife. The eastern shoreline of Marina Slough and the inner basin is barren with only patches of vegetation.

The existing Fulton Marina consists of 116 slips separated into four floating pier/finger docks systems (north, central, inner basin, and south docks). Currently only 80 to 100 slips are usable due to heavy silt deposition within the northern portion of Marina Slough. A boat ramp and an in/out well with a travel lift provide the means for the launching and retrieval of boats.

The floodplain area contains limited parking facilities, an aggregate road, the boat launch and the in/out well, and limited lights. A forested wetland is also found within the floodplain south of the inner basin.

The bathrooms, maintenance service building, and boat storage parking/areas are located east of the levee, outside of the floodplain. Vehicle access to the marina facilities is through a single entrance/exit road off of Fourth Street.

The Great River Bike Path starts on the north side of the marina access road and runs north along the top of the levee providing access to the downtown area and the authentic Dutch windmill.

The fuel dock is not accessible to large boats because of heavy siltation and the short length of dock. The fuel pumping facility is substandard and does not meet current standards and safety requirements. Two fuel tanks are stored in a portable above ground container located within the floodplain. This container can be moved in the event of a flood. The pump-out facility is also substandard. The pump-out facility relies on gravity flow through an above ground pipe to a City manhole, and is unusable during periods of low water levels. Electrical and fresh water facilities to the docks are also in need of upgrading.

3.1.2 Alternative C (Windmill Transient Marina)

The Alternative C project area is located on both sides of the levee at the end of Eighth Street in the City of Fulton. The project site consists of an unnamed slough, a floodplain, the levee, a pedestrian/bike path, and a wetland, upland area. Access to the site is off of Eighth Street. The surrounding area is commercial/light industrial and close to the downtown area. The authentic Dutch windmill is located just south of the proposed site. See Appendix D.

An emergent, scrub/shrub wetland is found on the east side of the levee. Deciduous trees also inhabit the area.

An unnamed river island formed by sediment deposition protects the project area from the strong currents and heavy boat traffic of the Mississippi River to the west. The island is a forested wetland. Deciduous vegetation overhangs the slough providing habitat, resting, and foraging areas for waterfowl and other wildlife. The eastern shoreline slough is barren with only patches of vegetation. The floodplain consists of grass and scrub/shrub vegetation.

The Great River Bike Path starts runs along the top of the levee providing access to the downtown area and the authentic Dutch windmill and the existing Fulton City Marina.

3.2 Biological Environment

3.2.1 Alternative A (Proposed Project)

3.2.1.1 Habitat/Vegetation

The habitat/vegetation existing within the project area is minimal and has been influenced by development. Grass dominates the east side of the levee, while the west side is primarily riprap. The floodplain consists of grass, scrub/shrubs, aggregate parking facilities and a forested wetland. The wetland consists of grass, sedge, scrub/shrubs and deciduous trees.

Overhanging deciduous vegetation can be found along the western shoreline of the Island providing habitat for shore birds and resting areas for migratory waterfowl. The eastern shoreline of Marina Slough is mostly void of vegetation. The slough also provides slower moving, deep-water habitat for fish such as bass and bluegill to over winter.

3.2.1.2 Threatened, Endangered, and Candidate Species

Known threatened or endangered species that could be found in or near the project area include the Higgin's eye pearly mussel (*Lampsilis higginsii*), the bald eagle (*Haliaeetus leucocephalus*), and the Indiana bat (*Myotis sodalis*).

The Higgin's eye pearly mussel is a fresh water mussel found in deep water with fast flowing currents. They are very susceptible to pollution and heavy siltation however. Both the State of Illinois and the Federal Fish and Wildlife Service list it as endangered.

While the bald eagle is currently listed on the threatened and endangered species list, it is being proposed for de-listing. A major bald eagle nesting area is located on the Mississippi River less than three miles north of the project area. The island and the wetland may provide forage and resting habitat for the bald eagle.

The Indiana bat is a medium-sized bat that prefers dead or dying trees along streams and rivers for roosting during the summer where they forage for insects over riparian and floodplain areas. They hibernate in limestone caves. Both the State of Illinois and the Federal Fish and Wildlife Service list it as endangered.

3.2.1.3 Other Wildlife Species

The Mississippi River yields a variety of fish including saugar, fresh water drum, walleye, yellow perch, white bass, and catfish among others. Marina Slough provides deep water over winter habitat for fish such as bluegill and bass. It also provides foraging area in the spring and fall migration periods for migratory waterfowl such as the canvasback duck.

The overhanging vegetation along the eastern shore of the unnamed island provides habitat for songbirds, waterfowl, and raptures. The shoreline provides access to the water for small mammals and amphibians. It also provides resting areas for migratory waterfowl during migration periods.

The wetland located south of the inner basin offers habit for small mammals, reptiles and amphibians, as well as songbirds and waterfowl. However, the extensive development within the project area provides little habitat for wildlife.

3.2.2 Alternative C (Windmill Transient Marina)

3.2.2.1 Habitat/Vegetation

The habitat/vegetation existing within the Alternative C project area is minimal and has been influenced by development (construction of the levee). Grass dominates the east side of the levee, while the west side is primarily riprap. The floodplain area provides scrub/shrub habitat for nesting shore birds and waterfowl. The wetland consists of grass, sedge, scrub/shrubs and deciduous trees.

Overhanging deciduous vegetation can be found along the western shoreline of the Island providing habitat for shore birds and resting areas for migratory waterfowl. The eastern shoreline of slough is mostly void of vegetation. The slough also provides slower moving, deep-water habitat for fish such as bass and bluegill to over winter.

3.2.2.2 Threatened, Endangered, and Candidate Species

Threatened, endangered and candidate species are the same as the Proposed Alternative A. See Section 3.1.2.2

3.2.2.3 Other Wildlife Species

The Mississippi River yields a variety of fish including saugar, fresh water drum, walleye, yellow perch, white bass, and catfish among others. The slough provides deep water over winter habitat for fish such as bluegill and bass. It also provides foraging area in the spring and fall migration periods for migratory waterfowl such as the canvasback duck.

The overhanging vegetation along the eastern shore of the unnamed island provides habitat for songbirds, waterfowl, and raptures. The shoreline provides access to the water for small mammals and amphibians. It also provides resting areas for migratory waterfowl during migration periods.

The wetland located east of the levee offers habit for small mammals, reptiles and amphibians, as well as songbirds and waterfowl.

3.3 Land Use

3.3.1 Alternative A (Proposed Project)

Current land use within the project area includes a public marina, recreation, flood protection and floodwater storage. Marina Slough includes a public marina for mooring of privately owned boats, while the floodplain area is used for parking, marina support facilities, and floodwater storage. A pedestrian path/recreational trail located on top of the levee and north of the access road offers opportunities for walking, running, and biking. This path connects the City Marina to the Downtown Business Area and the Windmill. The upland area east of the levee includes boat storage areas, bathrooms, and boat maintenance facilities.

3.3.2 Alternative C (Windmill Transient Marina)

Current land use within the project area includes wildlife habit, recreation, flood protection and floodwater storage. A pedestrian path/recreational trail located on top of the levee offers opportunities for walking, running, and biking. This path connects to the existing City Marina, Downtown Business Area, and the Windmill. The area east of the levee includes wetland habitat.

3.4 Cultural/Paleontological Resources

3.4.1 Alternative A (Proposed Project)

There are no known archaeological concerns within the Fulton Marina. The existing development and the geological makeup of the project area are such that there is little likelihood that a historic property exists or may be affected by the proposed project.

3.4.2 Alternative C (Windmill Transient Marina)

There are no known archaeological concerns within the proposed Windmill Transient Marina site. The existing development and the geological makeup of the project area are such that there is little likelihood that a historic property exists or may be affected by the proposed project.

3.5 Local Social-Economic Conditions

3.5.1 Alternative A (Proposed Project)

A new marina is part of a larger plan to make the waterfront, a natural asset of the City of Fulton, more attractive. An attractive waterfront encourages pride, additional investment and greater economic activity in the Central Business District. This will help to reverse

demographic trends such as a declining and aging population that has affected the City of Fulton.

A renovated marina will benefit the transient boater by providing an appropriate slip to tie up to during their visit and the necessary amenities such as gas facilities, pump out facilities, a shower/bathhouse facility, and adequate maintenance facilities to meet the boaters needs. The renovated marina will become a destination point for the transient boater.

3.5.2 Alternative C (Windmill Transient Marina)

A marina to accompany the transient boater is part of a larger plan to make the waterfront, a natural asset of the City of Fulton, more attractive. An attractive waterfront encourages pride, additional investment and greater economic activity in the Central Business District. This will help to reverse demographic trends such as a declining and aging population that has affected the City of Fulton.

A new transient marina will benefit the transient boater by providing an appropriate slip to tie up to during their visit and the necessary amenities such as gas facilities, pump out facilities, and a shower/bathhouse facility to meet the boaters needs. A new transient marina will become a destination point for the transient boater.

4.0 Environmental Consequences

4.1 Impacts Common to All Alternatives

4.1.1 Cultural/Paleontological Impacts

No adverse effect on cultural resources would be anticipated from carrying out the proposed Action or any of the alternatives. The existing development and the geological makeup of both the proposed project site and Alternative C are such that there is little likelihood that a historic property exists or may be affected by the proposed project.

The IDNR CERP Process per the programmatic agreement with the USF&WS ruling can be found in Appendix E.

4.1.2 Environmental Justice

Executive Order 1289, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 59 Federal Register 7629 (1994), directs federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address as appropriate, and disproportionately high and adverse environmental effects of their

programs, policies, and activities on minority or low-income populations.

No environmental justice issues exist for any of the alternatives. The project area is currently the site of a marina. It is not used for agricultural, industrial, or any other economic activity, except for the marina. Alternative C is undeveloped and unused property near the existing authentic Dutch windmill. None of the alternatives would create any environmental pollution. No minority or low-income populations would be displaced or negatively affected in any other way by the proposed action or any of the alternatives.

4.2 Alternative A (Proposed Action)

4.2.1 Habitat Impact

The increase in human activity resulting from the renovated docks and associated facilities in Marina Slough should have limited impact on the use of the slough by migratory waterfowl, as prime waterfowl usage occurs prior to and following prime boating season, during migration periods. An increase in human activity will likely result in the temporary displacement of migratory waterfowl that might be present to other, less disturbed areas such as the island during boating season.

Placement of riprap along the shore of the inner basin and central dock areas will result in an increase in habitat for fingerlings. (See letter from Illinois Department Of Natural Resources, Appendix E.) No adverse impact to the existing vegetation or habitat within the project area is anticipated.

The proposed dredging of the Marina Slough and inner basin area will create additional deep-water over wintering habitat for bass and bluegill.

4.2.2 Biological Impact

The proposed stone riprap revetments will reduce bank erosion and decrease siltation into the river, while providing additional spawning areas and protection for fingerlings. No wetland habitat is impacted with the proposed Alternative.

The upgrade of the existing sewage pumpout facility to meet current standards and regulations will help to protect the water quality by providing an approved facility for the boater to empty their sewage tanks.

The fueling facilities could result in fuel spillage into the water. The impact of such an event would expect to be minimal however due to proposed design specifications that meet current standards,

regulations, operational procedures and training, and availability of spill containment and cleanup equipment.

An expanded marina facility could result in an increase in litter and noise pollution in the area during boating season as a result of the increase usage of the facilities by transient boaters. The increase in human activity should have only a minimal impact on waterfowl, shorebirds and other wildlife however, due to the short duration of prime boating season.

4.2.3 Listed Species

The project site is not a favorable environment for the Higgon's eye pearly mussel due to the heavy sediment load found in Marina Slough.

No adverse impact on bald eagle habitat would be anticipated from carrying out the Proposed Action as wintering and breeding habitat of the bald eagle is not affected.

No adverse impact to the Indiana bat would be anticipated from carrying out the Proposed Action, as summer roosting habitat would not be adversely affected by the project.

The Federal Aid Section 7 Evaluation findings can be found in Appendix E.

4.2.4 Floodplain Impact

The proposed development within the floodplain is designed to withstand a flood event with minimal impacts. The docks and piers are designed to allow vertical movement to compensate for water level changes, while the fuel and pumpout facilities will be properly ballasted to prevent buoyancy during flood events.

4.2.5 Socio-economic Impact

A first class transient boating facility will have a positive economic impact on the City of Fulton from the revenue generated by the tourist and transient boater. A first class transient facility will serve as a designation point of tourist, bringing in an estimated $3 million annually in direct and indirect economic activity to the City of Fulton.

4.2.6 Cumulative Impacts

The proposed Fulton Marina renovations, along with other BIG Program facilities that are currently being planned on the river (Clinton, IA and Alton, IL) have the potential to increase recreational use of a unique resource. Indeed, the intended purpose of the BIG Program is to increase transient boating on major waterways. Although, both

commercial and recreational boating use of the Mississippi River is already high, the additional transient boating facilities have the potential to add millions of dollars to local economies. At the same time they can very possibly be increasing the overall awareness of the Mississippi River corridor and the many environmental, recreational, cultural and historical opportunities that it has to offer.

An increase in these types of facilities will provide safe harbors, and enable transient boaters to legally dispose of refuse, and empty holding tanks. As modern, safe, and compliant marinas become more common on the Mississippi River, economic pressure may be placed on other marinas to upgrade their facilities in order to remain competitive to customer expectations.

Increased boater use of the Mississippi River could lead to better protection of the environment and natural resources of the Mississippi River corridor through cleanup activities supported by influential boaters and construction of marinas and facilities that meet all applicable local, state and federal laws for the protection of the environment. Modern facilities equipped with spill containment equipment could be expected to minimize any impact to water quality in the event of a spill. Additionally, the construction of other transient facilities will increase safety for the transient boater by offering harbors of refuge in the event of a storm, accident, or breakdown. They would also provide faster access to emergency assistance in the event of a spill or accident occurring on the river.

An increase in boating activity on the river also has the potential to disrupt foraging habits of migratory waterfowl. This should have minimal negative impact however, as prime waterfowl migrations occur prior to and following the prime boating season. Additionally any loss of waterfowl resting and foraging habitat should be minimal since the proposed site falls within existing development. Migratory waterfowl are more attracted to the vast undeveloped, natural areas found in the Service's National Wildlife Refuges located throughout the Mississippi River corridor.

The proposed dredging will generate deep-water habitat for over wintering fish, while the new riprap revetments will provide additional protective cover for fish to spawn and forage. This is expected to increase the fish population in the area, which will provide additional food for waterfowl and wildlife and attract boaters to the area seeking recreational opportunities. The construction of other facilities along the Mississippi River could only increase the habitat available for fish, thereby increasing the overall population of fish,

Modern transient facilities that are designed to withstand flood events could be expected to decrease the overall cost of damages incurred by communities located along the Mississippi River during a flood

event. Additionally modern designed facilities will reduce the amount of contamination and pollutants that could be released into the river environment during a flood event.

4.3 Alternative B (No Action)

4.3.1 Habitat Impacts

No loss or gain of habitat for fish to spawn or forage or migratory and shore birds would occur. Status quo would be maintained.

4.3.2 Biological Impacts

No positive or adverse biological impact is expected. Status quo would be maintained.

4.3.3 Listed Species

No adverse impact to threatened and endangered species is expected.

4.3.4 Floodplain Impact

No change in existing floodplain impacts will result with the No Action Alternative.

4.3.5 Socio-economic impacts

No action will result in the loss of approximately $3 million annually in direct and indirect economic activity to the City of Fulton that would be generated from tourist trade expected from a renovated and expanded City Marina that caters to the transient boater. Transient boaters would be reluctant to use the existing facilities, as it would not offer the amenities and services they expect or require. The transient boaters that would use the facility would be negatively impacted by the lack of amenities.

4.3.6 Cumulative Impacts

Transient facilities on the Mississippi River within the Fulton area are currently inadequate or non-existent. Thus, the No Action Alternative will maintain the status quo of the Mississippi River corridor and continue limiting transient boater usage. Increasing the awareness and promotion of the environmental, cultural, recreational, and historical potential of the Mississippi River would continue to be hampered, as there would not be the necessary facilities to attract and support the transient boater.

The No Action Alternative, however, will continue to maintain the status quo habitat for fish and other wildlife.

Boater safety and environmental protection along the Mississippi River corridor will also continue to be compromised.

4.4 Alternative C (Windmill transient Marina)

4.4.1 Habitat Impacts

Development of the infrastructure to support the Windmill Transient Marina will result in the loss of wetland habitat necessitating in the need for mitigation to meet regulatory approval. Additionally, due to the need for mitigation, a FONSI may not be appropriate for this Alternative, if selected.

The construction of the floating gangplanks and pier/finger docks will result in loss of some deciduous vegetation within the floodplain along the eastern shore of the slough. This will reduce the habitat to shorebirds and other wildlife inhabiting the area.

Placement of riprap along the eastern shore of the slough will provide additional spawning habitat for fish and provide protection for fingerlings. Dredging of the slough for the Windmill Transient Marina will provide additional deep-water habitat for over wintering fish.

4.4.2 Biological Impacts

Placement of riprap shore protection alone the eastern shore of the slough will prevent sediment erosion into the slough and Mississippi River from prop wash.

The resulting increase in human activity and boat operations within the Windmill Transient Marina facility likely will result in an increase in litter and noise pollution for the area. It may also have a limited adverse affect on shorebirds, waterfowl, and other wildlife inhabiting the shorelines.

4.4.3 Listed Species

Dredging within the slough, to provide for safe navigational depth for Windmill Transient Marina, is not expected to adversely impact the Higgon's eye pearly mussel, as the mussel prefers faster moving current than found in the slough. The slower current of the slough is not conducive to the survival of the mussel due to the resulting sediment deposition.

Filling of the wetland for development of the marina support facilities will result in some loss of possible forage habitat for the bald eagle. No

loss of resting habitat is expected with the development of this alternative.

Removal of any tress, especially dead or dying trees, may reduce roosting habitat for the Indiana bat. Any removal of trees will be done during the fall or winter months when the bat is not normally active in riparian areas. This will preclude adverse impact to the bat.

4.4.4 Floodplain Impact

The proposed new development within the floodplain is designed to withstand a flood event with minimal impacts. The docks, piers, and gangplanks are designed to allow vertical movement to compensate for water level changes, while the fuel and pumpout facilities will be properly ballasted to prevent buoyancy during flood events. The marina service building will be located east of the levee outside of the floodplain.

The existing City Marina facilities will not be renovated, thus they will continue to be subject to damage during flood events.

4.4.5 Socio-economic Impact

The creation of the Windmill Transient Marina will have a positive economic impact to the City of Clinton from the revenue generated by the tourist utilizing the marina as a point of designation. It is expected to provide approximately $3 million annual in direct and indirect economic activity to the City of Fulton.

4.4.6 Cumulative Impacts

The cumulative impacts of Alternative C are similar in nature to Alternative A. The Windmill Transient Marina would offer modern facilities to attract the transient boater to the area, while likely improving the overall environmental protection and boater safety of the Mississippi river corridor.

However, as the existing Fulton City Marina would be maintained as is, it would continue to be subject to considerable damage during a flood event. The City of Fulton would continue to incur heavy economic loss in cleanup and repair of the facilities following flood events. Additionally, fuel and pumpout facilities would continue to be substandard for a “first class” marina facility, and could lead to environmental pollution.

4.5 Summary of Environmental Consequences by Alternative

Environmental Consequences Summary			
	Alternatives		
	A: Proposed	B: No Action	C: Windmill Transient Marina
Habitat	• No adverse effect on habitat for shore birds, waterfowl, and other wildlife • Increased fish spawning habitat and protection for fingerlings • Possible increase in fish population of area	• No change in current status • Will not improve fish habitat or population	• Loss of wetland habitat • Limited impact on shore birds, waterfowl, and other wildlife • Increased habitat for fish to spawn and protection for fingerlings • Possible increase in fish population of area
Biological	• Increased shore protection and habitat • Increase in noise levels • Increase in litter • Increased protection for water quality	No change in current status	• Increased shore protection and fish habitat • Loss of wetland habitat • Increase in noise levels • Increase in litter • Increased protection for water quality
Listed Species	No adverse effect	No adverse effect	No adverse effect
Floodplain Impact	• Minimal negative impact to facilities within floodplain • Minimal impact of flood storage capacity	• Maintain negative impact to facilities within floodplain • Continued chance of pollution due to poor current design	• Minimal negative impact to new facilities within floodplain • Maintain negative impact on existing facilities in Marina Slough

Environmental Consequences Summary			
	Alternatives		
	A: Proposed	B: No Action	C: Windmill Transient Marina
Socio-economic Impact	Positive economic impact to City of Fulton	Negative economic impact to City of Fulton	Positive economic impact to City of Fulton
Cultural Resources	No adverse effect	No change in status	No adverse effect expected
Cumulative Impacts	• Minimal adverse effect on migratory fowl, shorebirds and wildlife • Increased protection of the environment • Increased boater safety • Increase in fish population of area • Increase in awareness and use of the river • Reduction in costs for cleanup and repair and facilities following flood events	• Maintains status quo of transient facilities within the Fulton area on the Mississippi River (none) • Continued economic decline of City • Maintain status quo of fish and wildlife habitat • Continued compromise of boater safety and the environment	• Minimal adverse effect on migratory fowl, shorebirds, and wildlife • Increased protection of the environment • Increased boater safety • Increase fish population of area • Increase in awareness and use of the river • Existing facilities subject to damage and cleanup/repair cost from flood events
Environmental Justice	N/A	N/A	N/A

5.0 List of Preparers

- Jeffery A. Bartoszek, P.E., The Abonmarche Group, Benton Harbor, Michigan – Technical review
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- Dan Veriotti, The Abonmarche Group, Benton Harbor, Michigan – Technical design
- Mark E. Walker, R.F., The Abonmarche Group, Benton Harbor, Michigan – Primary author

6.0 Consultation and Coordination with the Public and Others

The following meetings have been held to date on the development of this project. All meetings were open to the public.

Marina Committee Meetings

- 2001: 12/17
- 2002: 1/7, 1/21, 2/4, 4/1, 4/15, 6/3, 7/15, 8/5, 8/19, 9/3, 9/16, 9/30, 10/14, 11/4
- 2003: 1/6, 1/20, 2/17, 3/13, 3/17, 3/27, 3/31

City Council Meetings

- 2001: 7/18, 12/10
- 2002: 1/22, 12/2
- 2003: 1/21, 1/23, 2/10, 3/18

Public Hearing

- 2003: 2/3

Once the USF&WS has accepted the Draft EA, a news release soliciting public comments on the draft will be prepared by the USF&WS and distributed statewide by the External Affairs Office. The EA and all Appendices will also be posted on the USF&WS website. The City of Fulton will also prepare a new release soliciting comments on the draft EA. After the required 30-day comment period, and assuming no additional revisions are necessary, the EA and supporting grant documents will then be considered eligible for approval.

7.0 Public Comment on Draft EA and Response

The USFWS issued a news release informing the public of how they could get a copy of the draft EA. The USFWS also posted a copy of the draft EA on their NEPA web site (http://midwest.fws.gov/NEPA/index.html) to allow for additional review. In addition, copies were placed at the Fulton Library. The thirty-day public comment period established in the news release was open in August and September 2003. No comments were received.

8.0 References Cited

- *Market Feasibility Study for Proposed Marinas Clinton, Iowa and Fulton, Illinois,* The Abonmarche Group, Benton Harbor, Michigan. 2000.
- *City of Fulton Strategic Capital Improvement Plan,* City of Fulton, Illinois, September, 1999.
- *Application for Tier 2 of Boating Infrastructure Grant Program*, City of Clinton, Iowa, City of Fulton, Illinois, Intergovernmental Marina Partnership Project. 2001.
- *Aerial Photograph, Fulton, IL, 2000*, www.terraserver.microsoft.com

Appendix A
Project Location Map

Appendix B
Existing Conditions

Appendix C
Proposed Project Plan

Appendix D
Alternate C, Windmill Transient Marina

Appendix E
State and Federal Rulings